Direct Provisional Restoration: Clinical case report

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Summary

Provisional restorations within their functions should; keep prosthetic proximal and inter occlusal spaces, protect the pulp-dentin complex and dental remains, in addition to the preservation of periodontal health and finally comply with esthetic requirements. This paper presents a quick, low cost and efficient technique to prepare a single provisional restoration in a case to be restored by a ceramic onlay.

Key words

Immediate Provisional Restoration, Alginate, Triple Tray.

Introduction

The preparation of a dental element that will serve as a retainer for a fixed prosthesis should be immediately covered with a provisional restoration and it is important that the patient feels comfortable while waiting for the definitive restoration. Managing this phase of the treatment, the dentist can earn the trust of patients and success on the final restoration (Schillingburg et al. 1998).

This provisional restoration will perform some functions such as, protection of dental preparation, preservation of the pulp-dentin complex and the periodontal, maintaining the inter proximal and inter occlusal spaces, esthetics, etc. It can be used for some types of materials such as, polymethylmethacrylate, polyethyl methacrylate, polyvinyl methacrylate, bis-acryl composite resin and light-cured urethane dimethacrylate, and some manufacturing techniques have been employed in order to facilitate their preparation by dentists (SCHILLINGBURG et al. 1998). Among these techniques, two are widely used and provide speed and precision for preparation: molding with hydrocolloid and heavy condensation silicone mass.

This paper presents a quick, low cost and efficient technique to prepare a single provisional restoration in a case to be restored by a ceramic onlay.

Clinical Case Report

Female patient, 25 years old, came to the Graduation Course Clinic of the Dentistry School at Universidade do Grande Rio looking for dental care. After clinical and radiographic evaluation, it was identified that the patient had restorations in precarious conditions, which needed replacement. Element 46 presented a defective fused metal restoration (Fig. 1).

After detailed evaluation of the case, the treatment plan aimed at removing the defective metal restoration and recovery of the form and function through an onlay restoration. Two restorative options were offered to the patient, along with the criteria discussed, so she could analyze the advantages and disadvantages of each option, for a proper choice.

Due to the fragility of the remaining dental, the suggestions were preparing a fused metal restoration with the protection of cusps, or an indirect ceramic adhesive restoration, also to promote the strengthening of the dental remains, aligned with an esthetic recovery of the tooth.

The patient opted for the second restoration option and in the first clinical session, the restoration of element 46 was removed and then a filling core was prepared with glass ionomer cement (Vidrion R – SS White) (Fig. 2).

In a next step, to have a "matrix" that would assist in the preparation of the provisional restoration, a mold was built with alginate (Orthoprint - Zhermack) in a triple tray (Moldex – Angelus), thus, having the anatomical copy of the filled tooth as well as recording in maximum habitual intercuspation (Fig. 3). After setting the cavity preparation (Fig. 4), light curing acrylic resin (Duralay – Reliance) was applied in the mold of the tooth (Fig. 5) and the tray + acrylic resin set was repositioned in the mouth. The patient was requested to occlude carefully in maximum habitual intercuspation (Fig. 6). After removing excess material, the provisional restoration was placed in the preparation and then checked the occlusion with carbon (Contacto – Angelus) (Fig. 7), polished and sealed provisionally in the preparation. (Dycal – Dentsply).

Subsequently, molding procedures were performed and, at a next appointment, adhesive sealing (Enforce – Dentsply) of the pure ceramic onlay was performed (Duceram-LFC – Degussa/Dentsply) (Fig. 8).

Discussion

Among the several techniques for preparation of provisional restorations, we can highlight the direct manual insertion technique ("ball technique") that despite its low cost, requires expertise during the anatomical conformation and demands a little more time for the least experienced professionals. Another popular technique is pre-molding, where a mold of the filling core or pre-existing restoration is built before preparation with an irreversible water hydrocolloid or an elastomer. However, in this technique there are some difficulties as how to ensure correct placement of the tray containing acrylic, which can promote large occlusal and/or anatomical discrepancies and unnecessary waste of time for adjustment, in addition to the possible need for multiple realignments.

The presented technique is versatile as it has the advantages of ease of anatomical conformation of the molding technique, and at the same time ensures the correct positioning of the tray through maximum habitual intercuspation. Therefore, this enables a provisional restoration with few excess material and that virtually will need simple and low-cost occlusal adjustments in a short time, being viable and agile for daily clinical practice.

Conclusion

As conclusions, we can attest that this technique has advantages such as; occlusal accuracy due to the occlusal registration in maximum intercuspation, low cost depending on the materials used, fast and simple preparation being accessible for all.

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Fotografias

Figura 1. R.M.F. deficiente necessitando substituição.

Figura 2. Núcleo de preenchimento,

Figura 3. Moldagem com alginato na moldeira tripla.

Figura 4. Preparo cavitário.

Figura 5. Inserção da resina acrílica no molde de alginato.

Figura 6. Molde de alginato reposicionado em máxima intercuspidação habitual.

Figura 7. Checagem dos contatos oclusais.

Figura 8. Onlay cerâmico cimentado.